

WHAT IS CLAIMED IS:

1. An apparatus for producing a peritoneal dialysis solution comprising:  
a housing defining a fluid flow path therethrough;  
at least one reagent bed within the housing along the fluid flow path, wherein  
the at least one reagent bed comprises dry reagents forming at least a part of a  
solution for peritoneal dialysis; and  
a compression component is positioned to exert pressure on the at least one  
reagent bed.
2. The apparatus of Claim 1, wherein the compression component comprises a  
compressible foam member.
3. The apparatus of Claim 1, wherein the compression component is positioned  
within the fluid flow path, and comprises an open cell compressible foam member.
4. The apparatus of Claim 1, wherein the compression component comprises a  
coiled spring.
5. The apparatus of Claim 1, wherein the at least one reagent bed is compressed  
between an upstream compression component and a downstream compression component.
6. The apparatus of Claim 5, wherein the at least one reagent bed is confined  
between an upstream reagent restraint, positioned between the upstream compression  
component and the at least one reagent bed, and a downstream reagent restraint, positioned  
between the downstream compression component and the at least one reagent bed.
7. The apparatus of Claim 5, wherein the at least one reagent bed includes dry  
forms of electrolyte salts, dextrose, and a buffer.
8. The apparatus of Claim 1, wherein the at least one reagent bed comprises a  
first reagent bed and a second reagent bed.

9. The apparatus of Claim 8, wherein the first reagent bed is downstream of the second reagent bed.
10. A method of performing peritoneal dialysis solution, comprising:  
connecting a diluent source with a reagent cartridge in fluid communication with a dialysate reservoir;  
providing diluent from the diluent source to the reagent cartridge;  
converting a dry reagent within the reagent chamber into a fluid form by flowing the diluent into the reagent cartridge and dissolving dry reagents within the reagent cartridge; and  
delivering the fluid form from the reagent cartridge to the reservoir.
11. The method of Claim 10, wherein converting comprises compressing the dry reagent with at least one compacting mechanism while flowing the diluent through the dry reagent.
12. The method of Claim 11, wherein the at least one compacting mechanism is a compressible foam member.
13. The method of Claim 12, wherein the reagent cartridge houses at least one dry reagent bed.
14. The method of Claim 13, wherein the at least one compacting mechanism exerts continual pressure on the at least one dry reagent bed.
15. The method of Claim 13, wherein the at least one reagent bed includes dry forms of electrolyte salts, dextrose, and a buffer.
16. The apparatus of Claim 13, wherein the at least one reagent bed comprises a first reagent bed and a second reagent bed.

17. The apparatus of Claim 16, wherein the first reagent bed is downstream of the second reagent bed.
18. A method of performing peritoneal dialysis solution, comprising:  
providing a dry reagent bed in a reagent cartridge;  
providing a diluent source upstream of and in fluid communication with the reagent cartridge;  
converting a dry reagent within the reagent chamber into a fluid form by flowing a diluent into the reagent cartridge from the diluent source and dissolving the dry reagent bed within the reagent cartridge; and  
delivering the fluid form from the reagent cartridge to a peritoneal cavity of a drug recipient in fluid communication with the reagent cartridge.
19. The method of Claim 18, converting comprises compressing the dry reagent with at least one compacting mechanism while flowing the diluent through the dry reagent.
20. The method of Claim 18, wherein the reagent bed includes dry forms of electrolyte salts, dextrose, and a buffer.